

Abstract

Devices and methods are provided for creating lesions in endocardial tissues surrounding a vessel opening to thereby isolate focal arrhythmia substrates, including an invasive catheter assembly comprising an elongate body having a longitudinal axis and first and second lumens, a first catheter having a distally mounted expandable anchor body disposed in the first lumen, and a second catheter having a distally mounted electrode disposed in the second lumen, the elongate body having a first distal opening accessing the first lumen through which the first catheter may be extended axially relative to the longitudinal axis of the elongate body and a second distal opening accessing the second lumen through which the second catheter may be extended at an angle relative to the longitudinal axis of the elongate body. The disclosed invention also includes an elongate catheter having an expandable electrode body mounted on one end, wherein the electrode body is configured to form an enlarged circumferential region when expanded, the enlarged circumferential region defining a distal facing surface of the electrode body, the distal facing surface including an area configured to emit radio frequency (RF) energy.